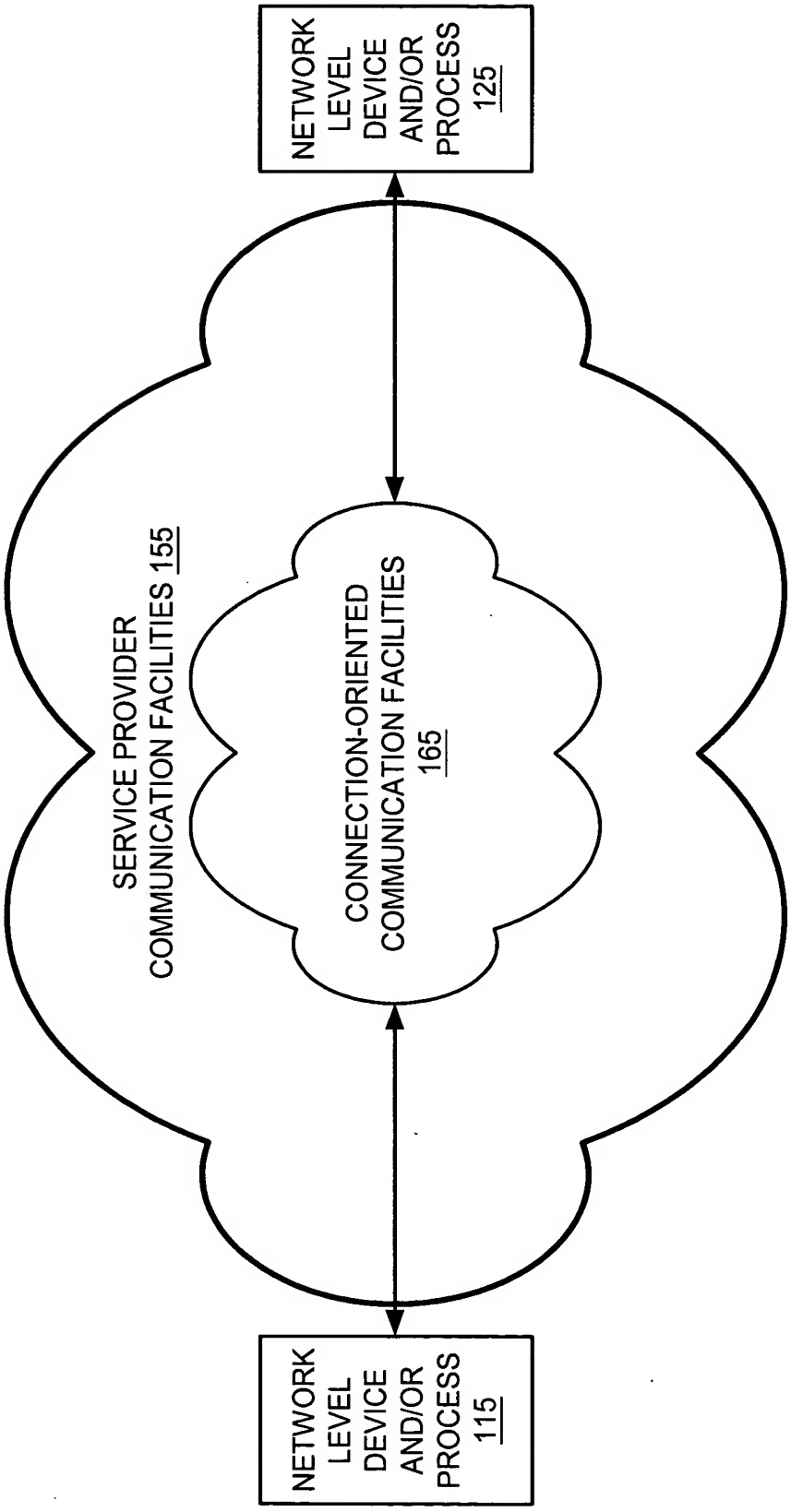
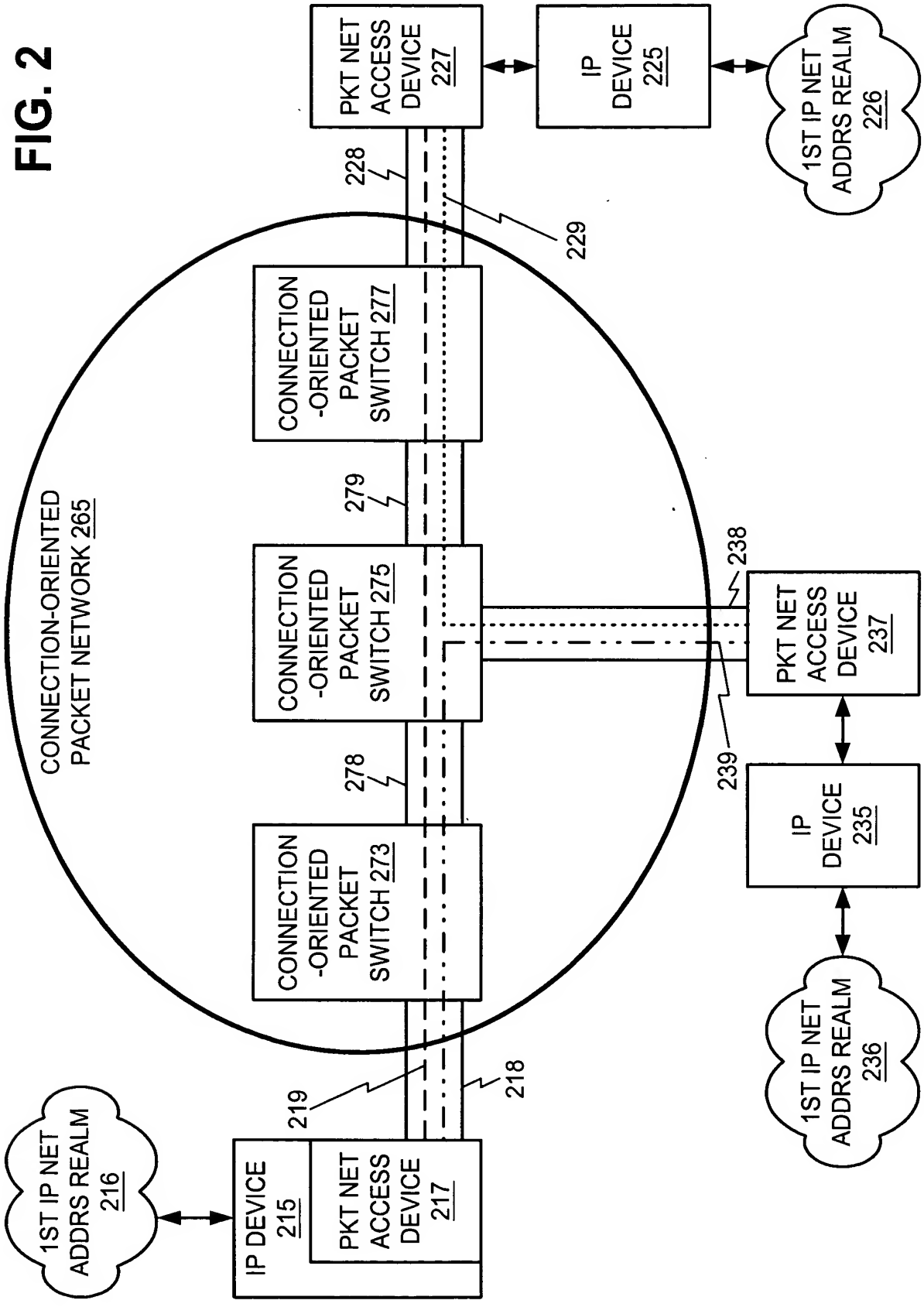

NETWORK LEVEL DEVICE AND/OR PROCESS 125
SERVICE PROVIDER COMMUNICATION FACILITIES 155
CONNECTION-ORIENTED COMMUNICATION FACILITIES 165
NETWORK LEVEL DEVICE AND/OR PROCESS 115

FIG. 1

FIG. 2


1ST IP NET ADDRS REALM 216
IP DEVICE 215
PKT NET ACCESS DEVICE 217
219
218
CONNECTION-ORIENTED PACKET NETWORK 265
CONNECTION -ORIENTED PACKET SWITCH 273
278
CONNECTION -ORIENTED PACKET SWITCH 275
279
CONNECTION -ORIENTED PACKET SWITCH 277
228
229
PKT NET ACCESS DEVICE 227
IP DEVICE 225
1ST IP NET ADDRS REALM 226
238
PKT NET ACCESS DEVICE 237
239
IP DEVICE 235
1ST IP NET ADDRS REALM 236

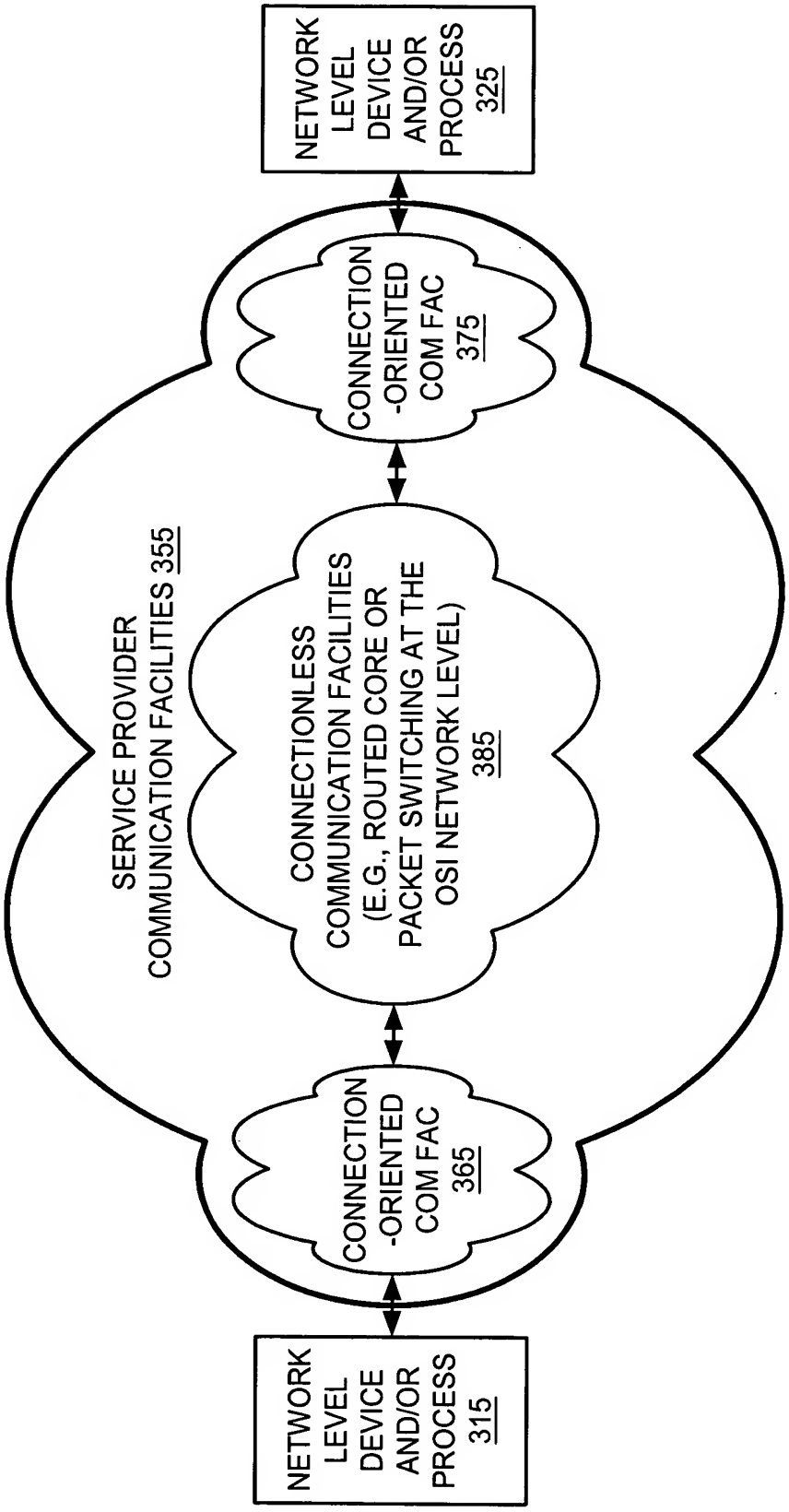
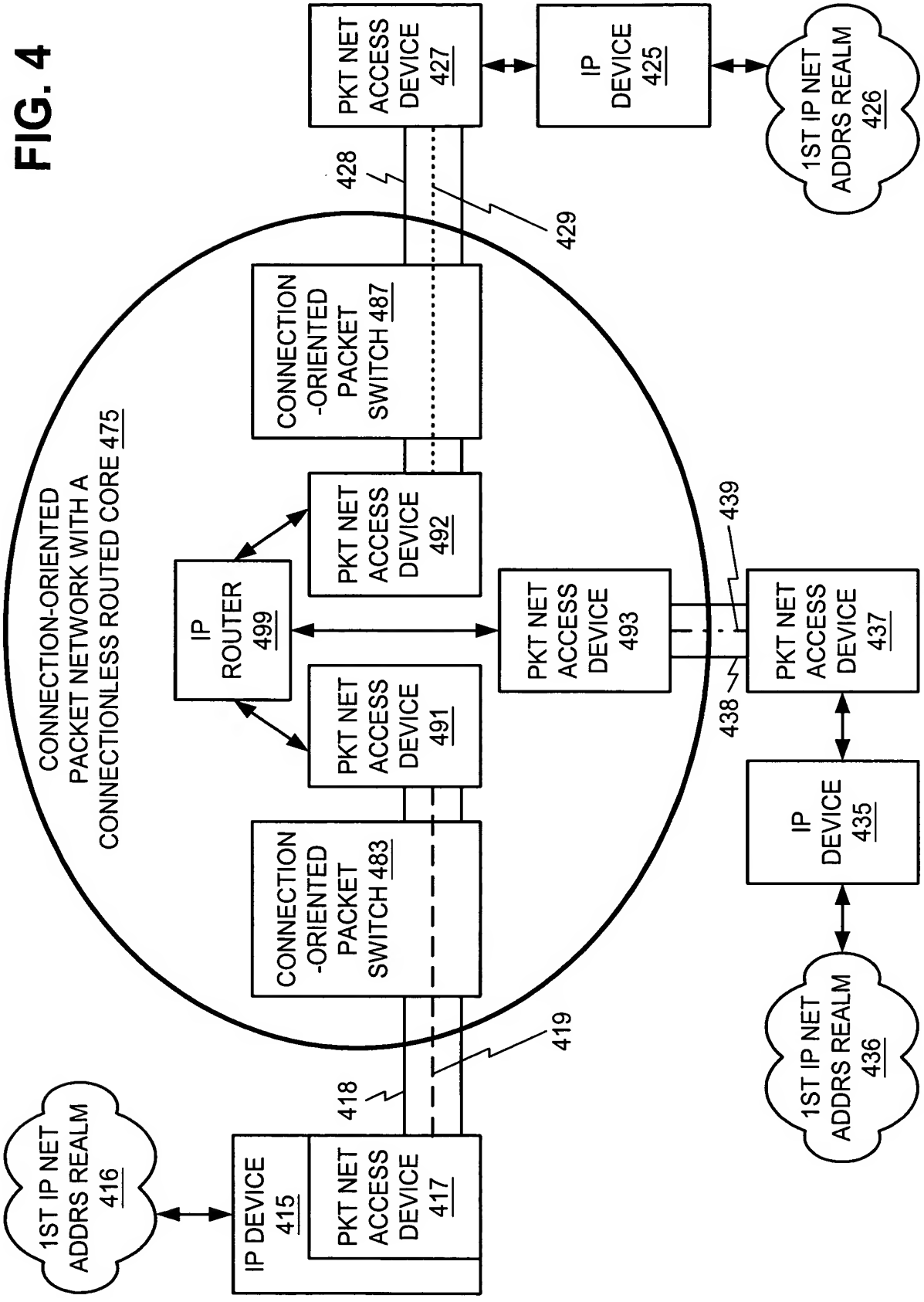

NETWORK LEVEL DEVICE AND/OR PROCESS 325
CONNECTION -ORIENTED COM FAC 375
SERVICE PROVIDER COMMUNICATION FACILITIES 355
CONNECTIONLESS COMMUNICATION FACILITIES (E.G., ROUTED CORE OR PACKET SWITCHING AT THE OSI NETWORK LEVEL) 385
CONNECTION -ORIENTED COM FAC 365
NETWORK LEVEL DEVICE AND/OR PROCESS 315

FIG. 3

FIG. 4


1ST IP NET ADDRS REALM 416
IP DEVICE 415
PKT NET ACCESS DEVICE 417
418
419
CONNECTION-ORIENTED PACKET NETWORK WITH A CONNECTIONLESS ROUTED CORE 475
CONNECTION -ORIENTED PACKET SWITCH 483
PKT NET ACCESS DEVICE 491
IP ROUTER 499
PKT NET ACCESS DEVICE 492
CONNECTION -ORIENTED PACKET SWITCH 487
428
429
PKT NET ACCESS DEVICE 427
IP DEVICE 425
1ST IP NET ADDRS REALM 426
PKT NET ACCESS DEVICE 493
438
439
PKT NET ACCESS DEVICE 437
IP DEVICE 435
1ST IP NET ADDRS REALM 436

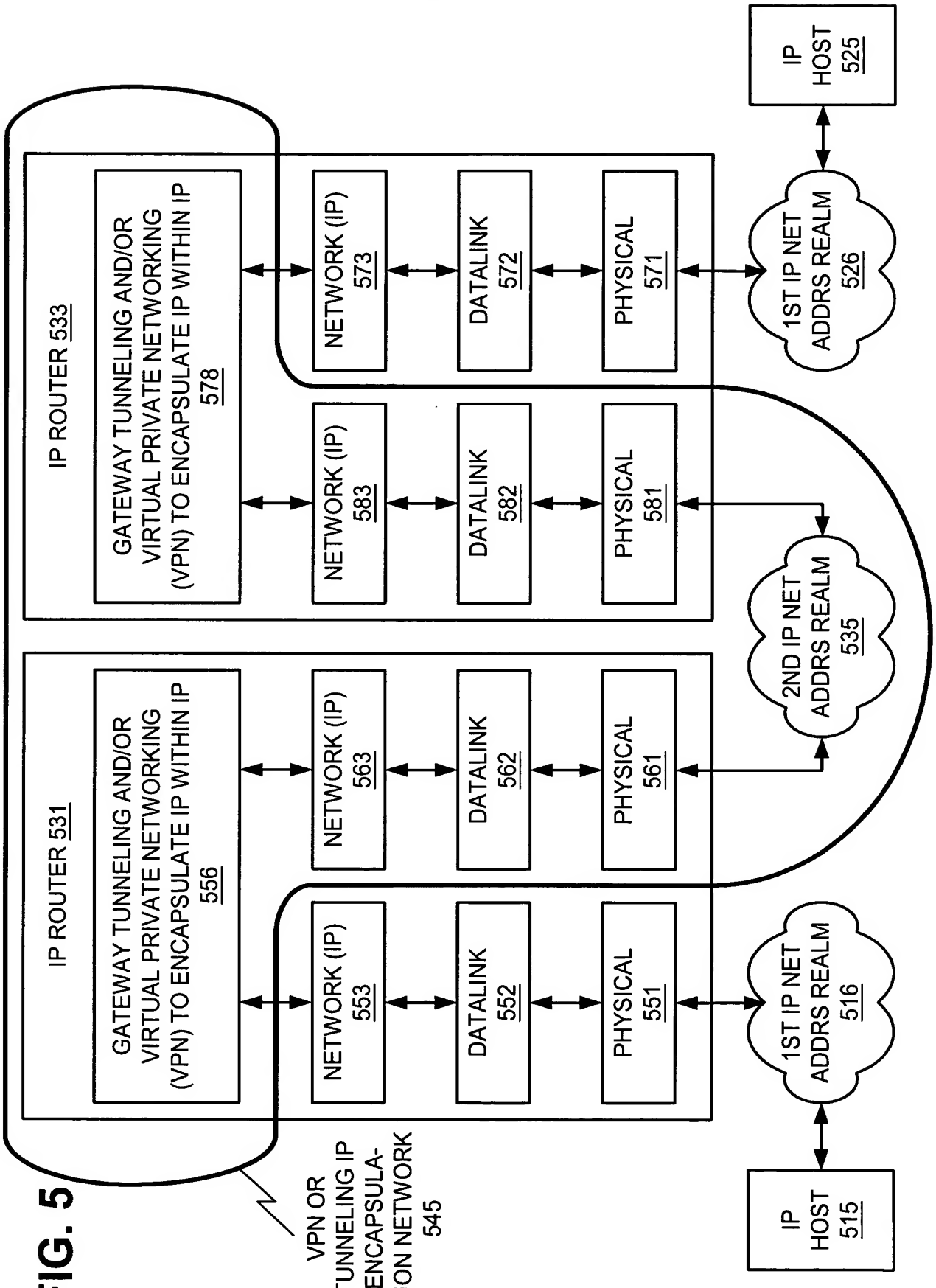

IP HOST 525
1ST IP NET ADDRS REALM 526
2ND IP NET ADDRS REALM 535
1ST IP NET ADDRS REALM 516
IP HOST 515
IP ROUTER 533
GATEWAY TUNNELING AND/OR VIRTUAL PRIVATE NETWORKING (VPN) TO ENCAPSULATE IP WITHIN IP 578
NETWORK (IP) 573
DATALINK 572
PHYSICAL 571
NETWORK (IP) 583
DATALINK 582
PHYSICAL 581
IP ROUTER 531
GATEWAY TUNNELING AND/OR VIRTUAL PRIVATE NETWORKING (VPN) TO ENCAPSULATE IP WITHIN IP 556
NETWORK (IP) 563
DATALINK 562
PHYSICAL 561
NETWORK (IP) 553
DATALINK 552
PHYSICAL 551
VPN OR TUNNELING IP ENCAPSULATION NETWORK 545

FIG. 5

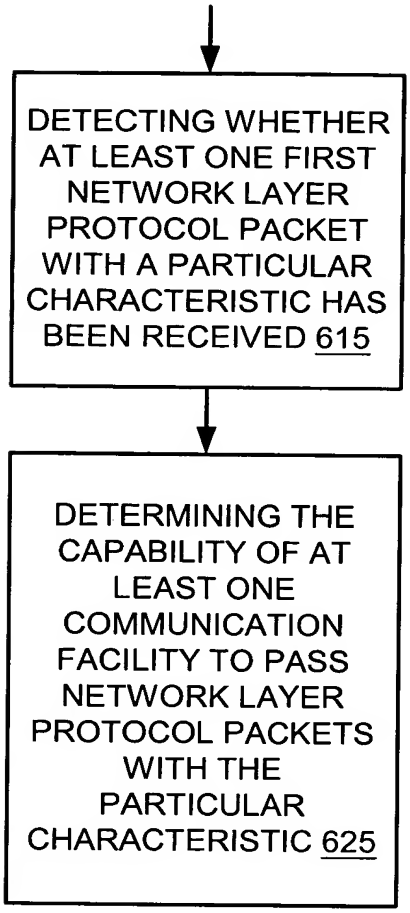

DETECTING WHETHER AT LEAST ONE FIRST NETWORK LAYER PROTOCOL PACKET WITH A PARTICULAR CHARACTERISTIC HAS BEEN RECEIVED 615
DETERMINING THE CAPABILITY OF AT LEAST ONE COMMUNICATION FACILITY TO PASS NETWORK LAYER PROTOCOL PACKETS WITH THE PARTICULAR CHARACTERISTIC 625

FIG. 6

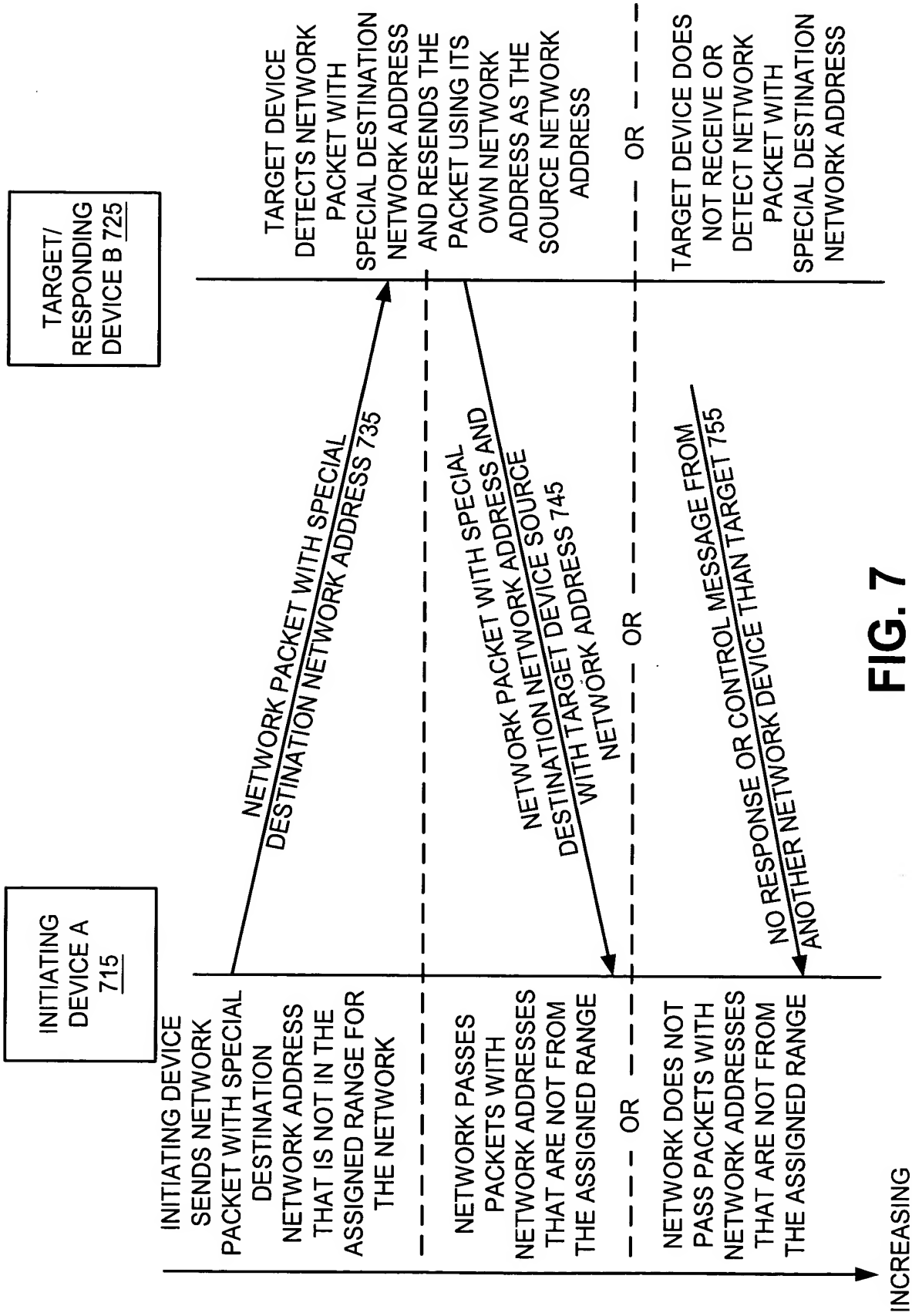

INITIATING DEVICE A 715
TARGET/ RESPONDING DEVICE B 725
INITIATING DEVICE SENDS NETWORK PACKET WITH SPECIAL DESTINATION NETWORK ADDRESS THAT IS NOT IN THE ASSIGNED RANGE FOR THE NETWORK
NETWORK PACKET WITH SPECIAL DESTINATION NETWORK ADDRESS 735
NETWORK DOES NOT PASS PACKETS WITH NETWORK ADDRESSES THAT ARE NOT FROM THE ASSIGNED RANGE
OR
NETWORK PASSES PACKETS WITH NETWORK ADDRESSES THAT ARE NOT FROM THE ASSIGNED RANGE
NETWORK PACKET WITH SPECIAL DESTINATION NETWORK ADDRESS AND SOURCE NETWORK ADDRESS 745
TARGET DEVICE DETECTS NETWORK PACKET WITH SPECIAL DESTINATION NETWORK ADDRESS AND RESENDS THE PACKET USING ITS OWN NETWORK ADDRESS AS THE SOURCE NETWORK ADDRESS
OR
TARGET DEVICE DOES NOT RECEIVE OR DETECT NETWORK PACKET WITH SPECIAL DESTINATION NETWORK ADDRESS
NO RESPONSE OR CONTROL MESSAGE FROM ANOTHER NETWORK DEVICE THAN TARGET 755
INCREASING TIME

FIG. 7

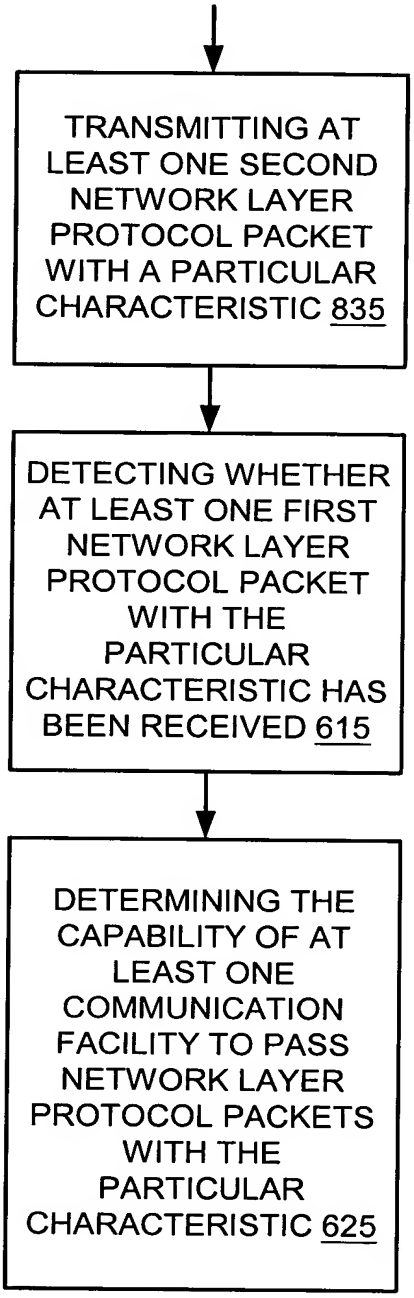

TRANSMITTING AT LEAST ONE SECOND NETWORK LAYER PROTOCOL PACKET WITH A PARTICULAR CHARACTERISTIC 835
DETECTING WHETHER AT LEAST ONE FIRST NETWORK LAYER PROTOCOL PACKET WITH THE PARTICULAR CHARACTERISTIC HAS BEEN RECEIVED 615
DETERMINING THE CAPABILITY OF AT LEAST ONE COMMUNICATION FACILITY TO PASS NETWORK LAYER PROTOCOL PACKETS WITH THE PARTICULAR CHARACTERISTIC 625

FIG. 8

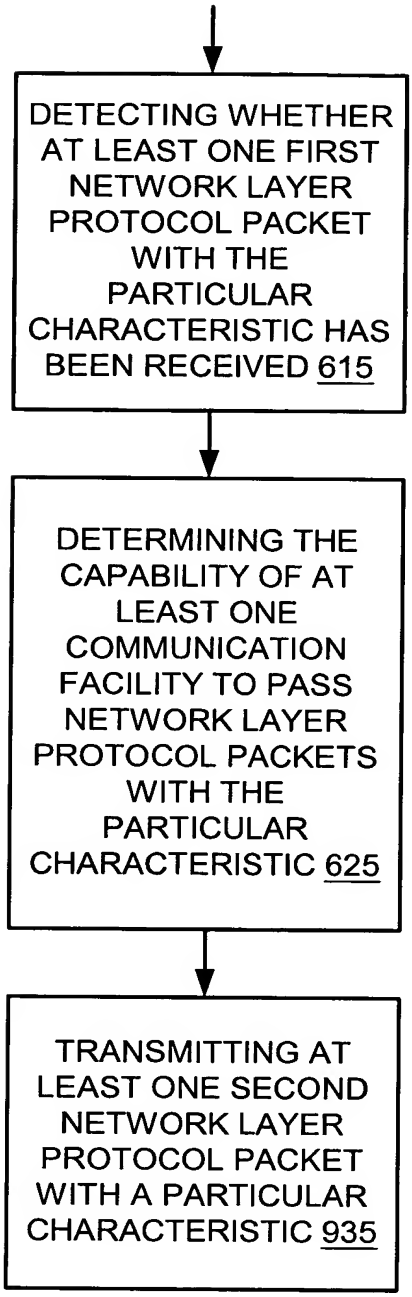

DETECTING WHETHER AT LEAST ONE FIRST NETWORK LAYER PROTOCOL PACKET WITH THE PARTICULAR CHARACTERISTIC HAS BEEN RECEIVED 615
DETERMINING THE CAPABILITY OF AT LEAST ONE COMMUNICATION FACILITY TO PASS NETWORK LAYER PROTOCOL PACKETS WITH THE PARTICULAR CHARACTERISTIC 625
TRANSMITTING AT LEAST ONE SECOND NETWORK LAYER PROTOCOL PACKET WITH A PARTICULAR CHARACTERISTIC 935

FIG. 9

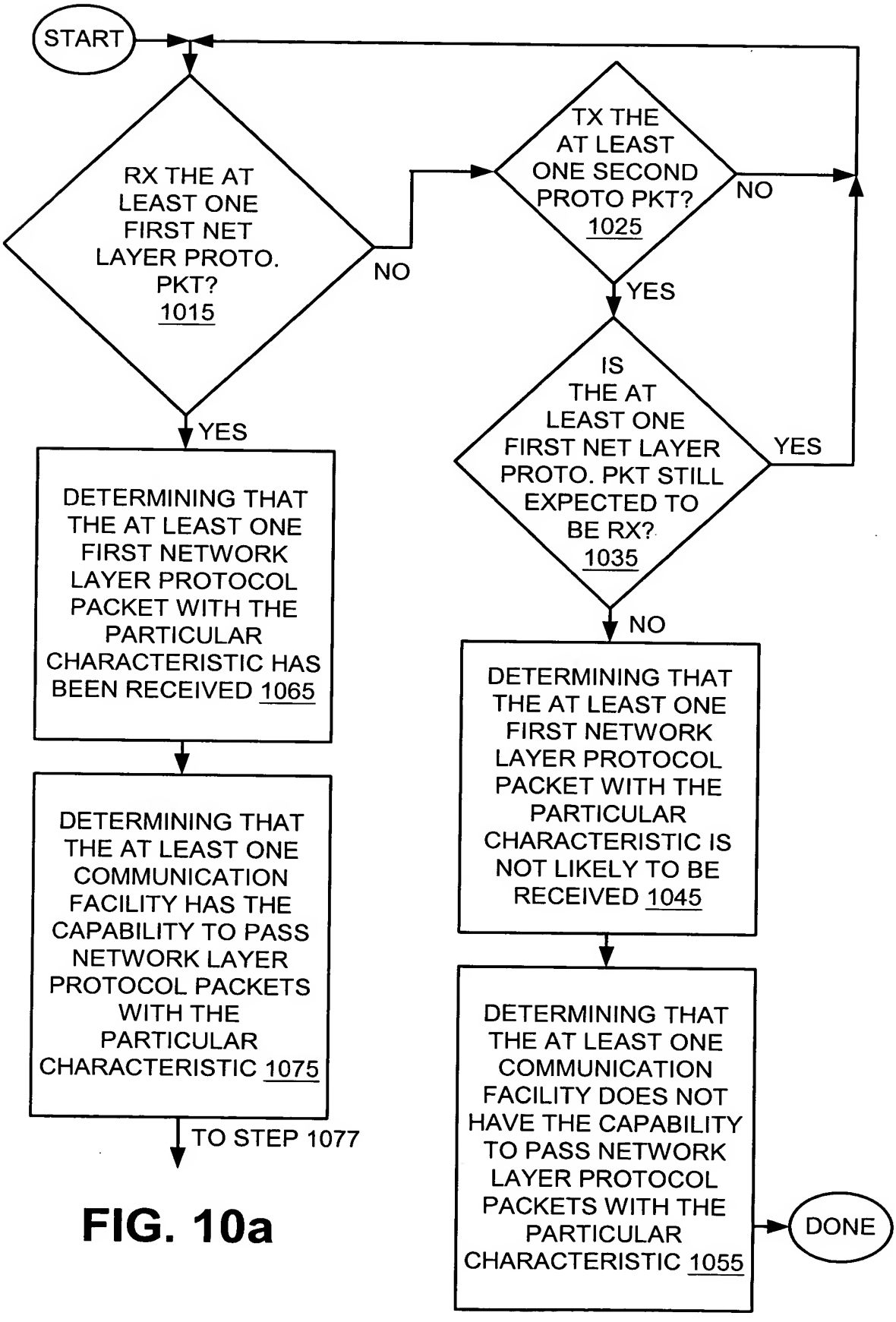

START
RX THE AT LEAST ONE FIRST NET LAYER PROTO. PKT? 1015
NO
YES
TX THE AT LEAST ONE SECOND PROTO PKT? 1025
NO
YES
IS THE AT LEAST ONE FIRST NET LAYER PROTO. PKT STILL EXPECTED TO BE RX? 1035
YES
NO
DETERMINING THAT THE AT LEAST ONE FIRST NETWORK LAYER PROTOCOL PACKET WITH THE PARTICULAR CHARACTERISTIC HAS BEEN RECEIVED 1065
DETERMINING THAT THE AT LEAST ONE COMMUNICATION FACILITY HAS THE CAPABILITY TO PASS NETWORK LAYER PROTOCOL PACKETS WITH THE PARTICULAR CHARACTERISTIC 1075
TO STEP 1077
DETERMINING THAT THE AT LEAST ONE FIRST NETWORK LAYER PROTOCOL PACKET WITH THE PARTICULAR CHARACTERISTIC IS NOT LIKELY TO BE RECEIVED 1045
DETERMINING THAT THE AT LEAST ONE COMMUNICATION FACILITY DOES NOT HAVE THE CAPABILITY TO PASS NETWORK LAYER PROTOCOL PACKETS WITH THE PARTICULAR CHARACTERISTIC 1055
DONE

FIG. 10a

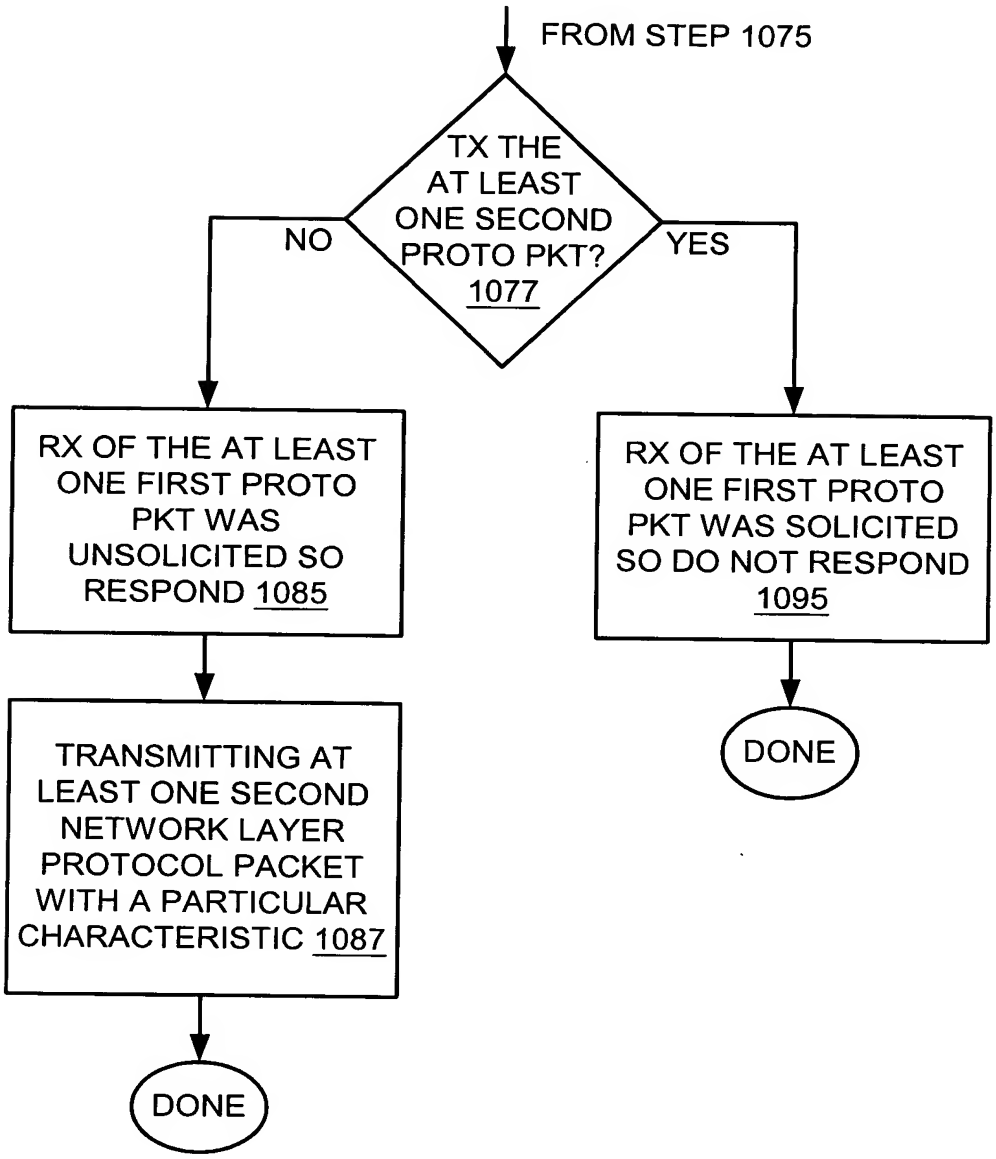

FROM STEP 1075
TX THE AT LEAST ONE SECOND PROTO PKT? 1077
NO
YES
RX OF THE AT LEAST ONE FIRST PROTO PKT WAS UNSOLICITED SO RESPOND 1085
RX OF THE AT LEAST ONE FIRST PROTO PKT WAS SOLICITED SO DO NOT RESPOND 1095
TRANSMITTING AT LEAST ONE SECOND NETWORK LAYER PROTOCOL PACKET WITH A PARTICULAR CHARACTERISTIC 1087
DONE
DONE

FIG. 10b

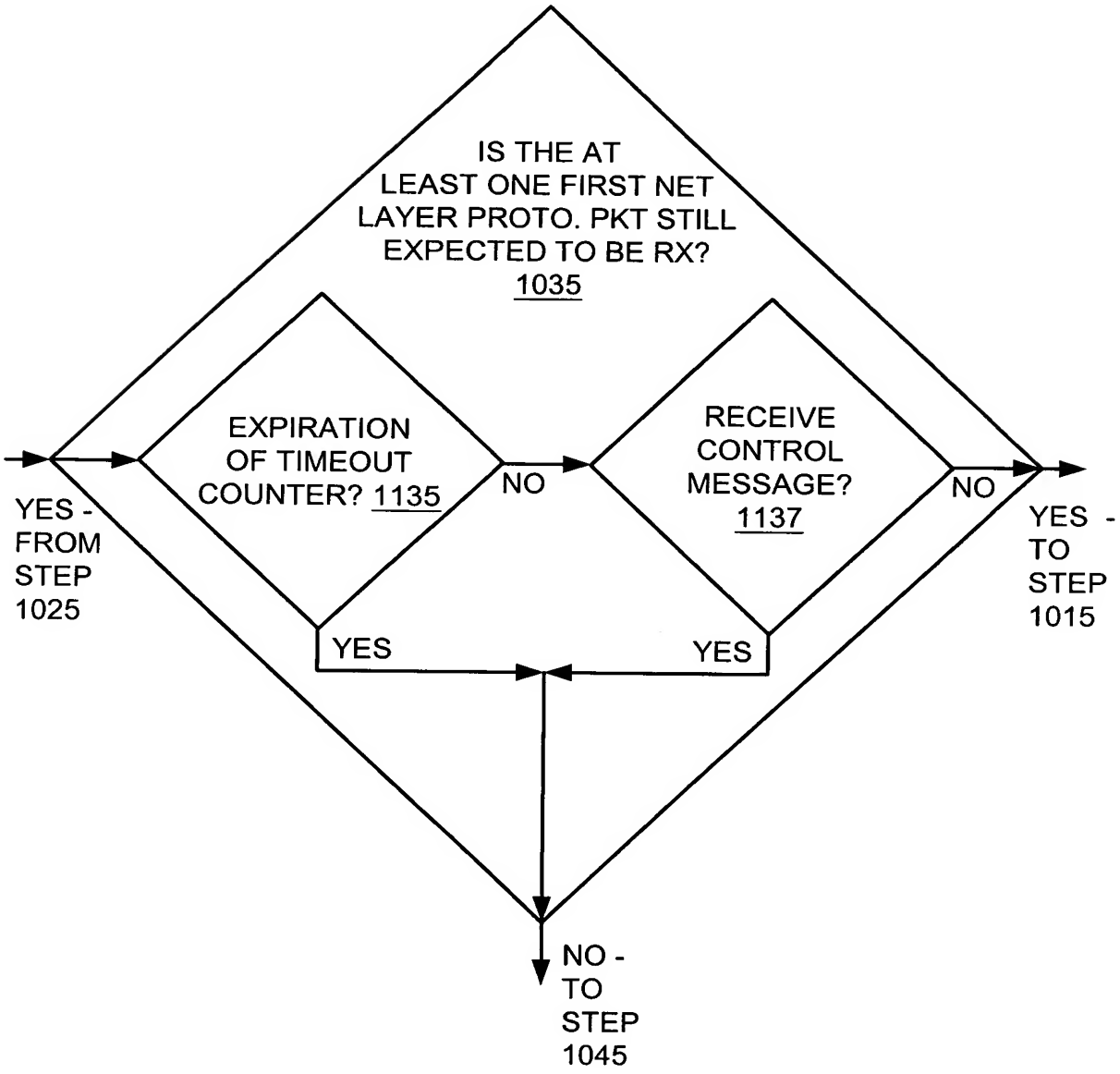

IS THE AT LEAST ONE FIRST NET LAYER PROTO. PKT STILL EXPECTED TO BE RX? 1035
EXPIRATION OF TIMEOUT COUNTER? 1135
RECEIVE CONTROL MESSAGE? 1137
YES - FROM STEP 1025
NO
NO
YES - TO STEP 1015
YES
YES
NO - TO STEP 1045

FIG. 11